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ACADEMIC ABILITY, INTEREST, EXPERIENCE, EXPOSURE:
PREDICTORS FOR COMPLETION OF FIRST SEMESTER
MENTAL HEALTH STUDENTS

A Thesis
Presented to the
Faculty of
California State College
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Psychology

by
Betty P. Dennison
August 1983

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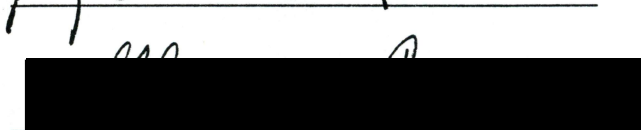
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Approved by:



Chairperson





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Date

ABSTRACT

The present study examined the relationship between academic and non-academic variables and student completion of the first semester of the Mental Health Program at Mt. San Antonio College, Walnut, California, for purposes of student selection and retention. Sixty seven entering Mental Health students (20 males and 47 females) were given the American College Testing Career Planning Program exam and a supplemental questionnaire devised by the present author. Variables investigated were: (1) academic ability in Mathematics and in English; (2) interest in the areas of Health, Social Services, Work Skills, and Personality Characteristics; and (3) Experience in and Exposure to the field of Mental Health. The relationship between these variables and student completion of the first semester of the program was assessed by the point-biserial r . Results showed significant correlations with completion in English Ability, $r_{pb}(65) = .265$, $p < .05$, and in prior Exposure to the Mental Health Field, $r_{pb}(65) = .302$, $p < .01$. Chi-square analysis was performed on demographic variables of sex, age, and ethnicity. All were found to be independent of completion of the first semester of the program.

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INTRODUCTION

The problem of student non-completion of the Mental Health Program at Mt. San Antonio College (MSAC) in Walnut, California, is of concern to both school and community. The need for skilled workers in the Mental Health field is nationwide (Dugger, 1980); this need is reflected in the community that MSAC serves. On the other hand, the California Community College system is in serious financial crisis (Randall, Note 1), and MSAC is justly concerned with cost-effectiveness of programs. Attrition of students not only reduces the number of potential Mental Health workers, but also increases program costs and decreases faculty productivity. Faculty productivity, in this instance, refers to the number of students taught. The researcher is the Director of the Mental Health Program at MSAC, and through this study examines possible correlates of first semester student completion.

It is presumed that students entering the Mental Health Program at MSAC want to become Psychiatric Technicians. Something happens to prevent some of them from reaching their goal. Faculty and administration view non-completion as a problem for concern. The questions raised are: "Why do students drop out?" "What are the factors in

attrition?" "Is attrition an inevitable problem?" "At what point is it a problem?" "What can be done about it?" If these questions can be answered, then the process of student selection can be altered and student retention will be accomplished. Those students with the greatest potential for completing the program can be encouraged to enter the program, while those who appear to be potential "drop-outs" can be redirected into a more satisfying and appropriate field. This will be productive for the student, school, and community.

Terminology of the problem needs to be defined. The literature abounds with different terms, presumably meaning the same thing. For instance, drop-out, attrition, non-completion, early leaver, and withdrawal indicate those students who do not finish a program; whereas, graduate, persistence, completion, and retention indicate those who do finish (Astin, 1976; Knopf, 1975; Brazziel, 1977; Atkins, 1970; Foellinger, 1980). For purposes of this paper, the terms are used somewhat interchangeably but attrition and non-completion, graduate and completion are the preferred terms.

The Mental Health Program at MSAC produces graduates eligible for licensure as Psychiatric Technicians. The Psychiatric Technician is a para-professional at the first level of care for the mentally ill, emotionally disturbed, or mentally retarded. The Psychiatric Technicians Law

(1980, p. 4) states that:

"psychiatric technician" means any person who, for compensation or personal profit, implements procedures and techniques which involve understanding of cause and effect and which are used in the care, treatment, and rehabilitation of mentally ill, emotionally disturbed, or mentally retarded persons and who has one or more of the following:

- (a) Direct responsibility for administering or implementing specific therapeutic procedures, techniques, treatments, or medications with aim of enabling recipients or patients to make optimal use of their therapeutic regime, their social and personal resources, and their residential care.
- (b) Direct responsibility for the applications of interpersonal and technical skills in the observation and recognition of symptoms and reactions of recipients or patients, for the accurate recording of such symptoms and reactions, and for the carrying out of treatments and medications as prescribed by a licensed physician and surgeon or a psychiatrist.

The length of schooling required by the Board of Vocational Nurse and Psychiatric Technician Examiners (BVNPTE) is 1530 hours. This is identical to the Vocational Nurse; however, emphasis of course content is different. While the Psychiatric Technician has some nursing science classes, emphasis is on the behavioral sciences. In July 1972, the Board changed the nursing science component from 1020 to 396 hours, and the behavioral component from 510 to 1134 hours. This action more clearly delineated the Psychiatric Technician from the Vocational Nurse.

There are 20 schools in the state of California offering Psychiatric Technician programs. The programs all meet the minimum requirements spelled out in the Psychiatric Technicians Law. Despite the law, there is much variety in course work, structure, and implementation of clinical practice depending on the particular needs of the community and the kinds of facilities available for clinical experience. MSAC's Psychiatric Technician Program has a rich assortment of private and state facilities in the Pomona and East San Gabriel Valley areas offering experience in nursing, developmental disabilities, and mental disabilities. Most of the schools for Psychiatric Technicians are one year or three semester programs, but a few offer a two year course for an Associate of Science Degree. MSAC's program is three semesters, designed to qualify the graduate for licensure as a Psychiatric Technician. In addition, an optional fourth semester is offered to broaden the student's general education background with specialization in a specific Mental Health area, culminating in an Associate of Science Degree in Mental Health.

The MSAC Mental Health Program, started in September 1970, is accredited by the BVNPTE and any course changes in hours or content need prior Board approval before implementation. There is no pre-requisite course work required. The applicant must be 18 years of age and a

high school graduate (Psychiatric Technicians Law, 1980).

The program is well balanced in the three necessary areas. The first semester course work is composed largely of nursing theory and nursing clinical, but also includes an introduction to the Mental Health Field in theory and clinical. The second semester deals mainly with concepts of caring for the developmentally disabled and related clinical experience. The third semester is concerned with the mentally disordered client in theory and clinical practice. Courses from other departments on the college campus are integrated into the program. See Appendix A for a description of the required course work.

Background of the Problem

Need for Mental Health Workers

Despite the current economic climate of cutbacks in human service delivery systems, Psychiatric Technicians are still in demand for "level of care" positions. They are needed in State Mental Hospitals, Community Psychiatric Hospitals, Mental Health Clinics, and Treatment Centers for the Developmentally Disabled. In addition to the normal turnover and natural attrition of employees, there is a general understaffing in some areas. In general, the demand for such workers appears to exceed the supply. All graduates of MSAC's program that desire employment as Psychiatric Technicians find employment immediately upon

verification of completion of the program by the Director. This employment is prior to licensure. Once licensed, the Psychiatric Technician has great mobility among jobs in the Pomona and East San Gabriel Valley.

The shortage of Mental Health workers was predicted as far back as 1960 when George Albee did a study for the United States Joint Commission on Mental Health and Illness. He stated that there was no way the shortage of Mental Health workers could be alleviated with the then existing programs for training (Albee, 1960). Despite federal monies expended on the development of many new programs, such as the Comprehensive Community Health Center Acts, there is a consensus that current demands for service cannot be met now or in the foreseeable future (Dugger, 1980).

The greatest need for Psychiatric Technicians appears to exist in State Hospitals. A survey of eleven State Hospitals' employee turnover (Smith, Note 2) indicates a 20.77 yearly percentage of nursing services attrition. Replacement of staff continues to be a problem, particularly at Lanterman State Hospital, Pomona, which was understaffed by 100 positions last spring (Valenzuela, Note 3). Lanterman's supply of new Psychiatric Technicians has traditionally been provided by three schools, MSAC in Walnut, La Puente Valley Adult School in La Puente, and Rio Hondo College

in Whittier. Rio Hondo College's Psychiatric Technician Program, which had been subsidized by the State, was closed this past year due to a lack of funding. This will only compound Lanterman's staffing difficulties.

In contrast to State Hospitals, community facilities appear to have little difficulty in hiring Psychiatric Technicians. Inasmuch as community facilities are proprietary, they do tend to hire fewer Psychiatric Technicians, hiring unlicensed personnel, instead, for similar duties. A March 1979 survey of the twenty Psychiatric Technician programs in the state revealed that 19% of the graduates were employed by other than State Hospitals (Miller & Smith, Note 4). For MSAC, the number employed in the community was found to be 14%.

At the present time, there are 18,574 Psychiatric Technicians in the state of California (BVNPTE, Note 5), of which 13,000 are active. Of this 13,000 approximately 7-8,000 are working in the State Hospital system. MSAC graduates approximately 50 students per year, all of whom find employment. The problem is not that graduates cannot find employment, but rather that the school cannot provide enough Psychiatric Technicians. This is due, in large part, to attrition of students.

Schooling for Mental Health Workers

Community Colleges and Adult Education Programs assumed

responsibility for educating Psychiatric Technicians in 1969 when licensure became effective. Up to this time, they had been trained in State Hospitals. This change resulted in an emphasis on education rather than on service to the hospital. Programs developed in colleges near State Hospitals, as this was where the primary need for such workers existed. As the Psychiatric Technician began to be hired in community facilities, other colleges away from the State Hospitals became involved. The state largely subsidized programs in community colleges at first, but now, the twenty programs in the state are primarily funded locally by their institutions. Miller and Smith (1979) found that the direct cost of conducting Psychiatric Technician training programs in California was about \$3.2 million; MSAC's was \$170,000. In 1983, the Mental Health Department at MSAC investigated costs of the program for a BVNPTE program accreditation visit, and discovered that the three semester program cost the student \$1,200, but the cost to the school per student was \$5,000.

Brossman (1973) points out that since Community College Boards are elected locally, they are sensitive to community needs. MSAC's production of Psychiatric Technicians is definitely needed in the community, but attrition of students hampers how effectively that need is met. As enrollment problems generate concerns for added productivity in programs, better student selection

for more expensive programs will assume a higher priority (Brazziel, 1977). Health Occupation programs are already costly because of the limited number of students per instructor. The BVNPTE, who administers the Psychiatric Technicians Law, has determined that the ratio in the clinical area cannot be more than 15 students to one instructor. When the ratio decreases, the college takes a close look at the cost of the program.

The current fiscal crisis in California Community Colleges was precipitated by the passage in 1978 of Proposition 13, an initiative measure which changed the property tax base. This has adversely affected the schools, who traditionally have been supported locally, and who now must rely more on state funding. The state also has fewer revenues and the state four year Universities and Colleges will have precedence over Community Colleges when funds are dispensed. Therefore, cutbacks in programs and faculty are occurring at the present time in Community Colleges. At MSAC, there will be a two million dollar decrease in operational costs for the 1983-1984 school year; all departments were required to submit a 10% decrease budget for study. In addition, MSAC is closing all classes which do not meet 75% of the predicted class size. Programs will not be exempt if there is significant attrition in small enrollment programs (Randall, Note 1).

Attrition: Scope of the Problem

According to Astin (1976), nearly half of all American college students leave college before graduation. Atkins (1979) says that attrition rates in community colleges are even higher, with attrition approaching 70%. No published data were found on Mental Health programs per se, but it is presumed that Allied Health data and Nursing research can be related to the field since the Psychiatric Technician is a member of the Health Team and Mental Health is considered part of Allied Health. Osborn (1981, p. 38) says that "in comparing the Santa Ana College Registered Nurse program attrition rates singly or cumulatively with the field of research concerning this matter, it was found that attrition rates in nursing programs were between 40% and 50%." His study of 245 Registered Nurse (RN) graduates from Santa Ana College found that selected predictor variables of scholastic aptitude and achievement testing were suitable in predicting success on the State Board Test Pool Examination. Osborn also noted that attrition was significantly higher in schools not using such selection criteria for admission. Atkins (1979) found a 30-33% attrition rate in Allied Health. Her study of the effects of an orientation-advising program on attrition rates of 195 new students in the Allied Health Division at Spartanburg Technical College found no significant difference between groups before and after implementation of the advising program.

At MSAC, the overall attrition rate for the Health Science Division is 33% which is consistent with Atkins' findings. Attrition rates for the individual programs in the Division are: Mental Health/Psychiatric Technician (PT) - 31%, Registered Nurse (RN) - 27%, Licensed Vocational Nurse (LVN) - 37%, Respiratory Therapy - 48%, and Radiological Technology - 23% (Annual Reports, Note 6). Attrition in the Mental Health Program is greatest during the first semester with 28% occurring at that time. The Apprenticeship and Equivalency Psychiatric Technician programs, directed concurrently with the regular program in 1977 and 1978, had a much higher attrition rate, i.e., 49% (Annual Reports, Note 6). The Apprenticeship program was the pilot program in Health Occupations in California for the Department of Apprenticeship Standards, set up to meet the serious shortage of help at Lanterman State Hospital. Apprenticeship students were paid for working in the State Hospital and for going to school; school hours were counted in the 40 hour week. Service to the hospital was a prime consideration in this program with work experience hours exceeding clinical hours. Meyers (Note 7), then Director of the MSAC Mental Health Program, stated that although Apprenticeship students met the same criteria for admission as the regular students, as a group, they did not do as well as the regular student academically or clinically. Meyers stated that PT apprenticeship students

appeared to be less intrinsically motivated than the PT student in the regular program, that the paycheck was the more likely reason for entering the program, and that this could well have accounted for the high attrition rate. The program was discontinued at MSAC as not being cost effective for both hospital and college.

In a report to the California Association of Psychiatric Technician Educators (CAPTE) in 1980, representatives of the Department of Labor/Apprenticeship Standards stated that statewide attrition in Psychiatric Technician programs was around 30%. This report was consistent with the present author's research of attrition in Psychiatric Technician programs at MSAC, Rio Hondo College, and San Bernardino Valley College (Dennison, Note 8).

Attrition Correlates in Health Occupation Programs

While attrition in Health Occupation programs is well researched, the variables contributing to it are unclear and often contradictory. Variables examined include academic predictors such as pre-admittance examination scores and high school rank, and non-academic predictors such as personality traits, personal or family problems, health, birth order, socio-economic status, race, and age.

Academic Predictors. Astin (1976) indicates that a student's high school record and intellectual ability, as measured by standardized college entrance examinations,

has been shown to be the best predictor of attrition from college. By far the most frequently cited reason for withdrawal from nursing programs was scholastic difficulties (Knopf, 1975; Miller, 1974). Although academic pre-testing scores were found to be useful for predicting first year attrition from nursing school, they were not useful in predicting second year attrition (Plapp, Prathus, & Caputo, 1965).

Knopf (1975), who conducted an exhaustive survey of variables in a longitudinal study of nursing students in Associate of Science Degree (AD), Diploma school, and Bachelor of Science (BS) programs, found that scholastic problems of grade point average was the predominant reason for leaving nursing school but that other considerations were also important. As might be expected, those who had been in the bottom half of their high school classes left for scholastic reasons more than those who had been in the upper half of their high school classes. Other scholastic implications were societal. Ethnic groups other than white withdrew for scholastic reasons in greater proportions than white students. A comparison of black students and white students from the bottom half of their high school classes revealed that in the AD programs 74.2% of the black students withdrew while 55.8% of the white students withdrew; in the diploma programs 64.5% of the black students withdrew and 41.6% of the white students

withdrew; and in the BS programs 87.7% of the black students withdrew and 78.7% of the white students withdrew. The percentages of students from the lowest family income who withdrew for scholastic reasons were 56.2% from AD programs, 48% for BS programs, and 66.5% from diploma schools.

Another longitudinal study of attrition in a school of nursing (Wittmeyer, Camiscioni, & Purdy, 1971) verified that results of scholastic testing were the best predictors for completion (ACT mathematics test, $r = .279$, $p < .01$). They also noted, however, that use of such prediction would have screened out some students who completed the program. This indicates that non-academic factors as predictors for completion must also be considered.

Although community colleges have an open door, "first come-first served" policy for student admissions, this criterion is modified by health occupation programs to those students who qualify at a minimum level on ability tests. Verbal and mathematics skills are both needed by the Health Care Worker. The ability to comprehend and problem solve is inherent in the job functions. Also, at the end of schooling, a State Board examination must be passed for licensure. In order to ensure student success, a minimum level of competence is required. Tests frequently used to test intellectual ability are achievement and aptitude tests, i.e., the School and College Ability

Test (SCAT), American College Test (ACT), and Scholastic Aptitude Test (SAT). Minimum percentile standards for nursing programs vary from 30 to 50 (Osborn, 1981). The Mental Health program at MSAC, on the advice of the school's Counseling Department, has used the 30 percentile as the cut-off for student admission. It has been demonstrated that students can perform adequately at this level.

Non-Academic Predictors. Non-academic factors play a role in non-completion (Brazziel, 1977; Knopf, 1975; Wittmeyer, 1971). In Knopf's study, a lack of interest in nursing was the predominant reason for leaving baccalaureate programs, whereas scholastic failure was the major reason for leaving associate of science degree and diploma programs. Married and formerly married students withdrew more frequently because of personal/family problems and financial reasons than their single cohorts, 26.7% to 10.6% respectively. Students over 30 years of age when entering a program were 72% more likely to graduate than their younger cohorts. The lower the age group, the higher the attrition rate. It is possible that their experience or exposure to the health field was not as developed as the older students.

In a pre-college enrichment program designed to strengthen the likelihood of enrollment, Brazziel (1977) found that birth order was a good predictor. Compared to their counterparts, first born children entered the

program ($\underline{n} = 111$) at a ratio of 2.6:1 and completed the program at a ratio of 3.0:1. His study also examined persistence and performance of Medical Technology students ($\underline{n} = 75$); first born entered the program at a ratio of 2.3:1 and completed at a ratio of 2.8:1. It was also found that non-intellectual predictors of attrition, i.e., family income, family size, attitudes, and personal problems, assumed more importance in the later years of college (Brazziel, 1977; Knopf, 1975).

In contrast, results of the study by the Research Medical Center, Kansas City, Missouri, Nursing School (1975) did not support previous findings based on the use of measures of non-academic variables. The Edwards Personal Preference Schedule (EPPS) was given to all entering students, and no significant differences between the persister group and the withdrawal group were noted. Indeed, the only category to approach significance was "Achievement" and the withdrawal group had slightly higher mean scores.

Personality tests such as the Myers/Briggs Type Indicator and Cattell's 16 Personality Factor Test (16 PF) have been used with mixed results. Wittmeyer (1971, p. 345) states that "although measures from the Myers-Briggs and the 16 PF increased the ability to predict [success of completion of the program], it is unlikely that the amount of gain in selective efficiency would

justify administration of these instruments to all applicants." This study examined both academic performance and attrition using ACT scores, Prenursing Point-Hour Ratio, 16 PF, and the Myers-Briggs Type Indicator. The Myers-Briggs Judging-Perceiving scale displaced ACT Social Studies Reading as the second predictor, $r = .323$, $p < .01$ to $r = .243$, $p < .05$; students scoring higher on state board examination tended to react to their external environment in a perceiving rather than a judging fashion. Results of the 16 PF showed that students who withdrew tended to be more independent, $r = .31$, $p < .001$, and venturesome, $r = .289$, $p < .01$. It was found that the Prenursing Point-Hour Ratio, a type of grade point averaging used by Ohio State University, was the best overall predictor, $r = .637$, $p < .001$, and it was proposed that the Myers-Briggs and 16 PF be given to those applicants with a low Prenursing Point-Hour Ratio as part of the screening process.

Dennison's 1979 study of attrition in the Mental Health programs at MSAC, Rio Hondo, and San Bernardino Valley Colleges used the Myers-Briggs Type Indicator to determine the type of personality most likely to complete. All types were found to be represented somewhat evenly although there were a few more Extraverted Feeling Intuitive Perceptive (EFNP) types enrolling and completing. It has been suggested that perhaps all personality types

are needed in the field since they complement each other (Myers, 1962).

Possible Correlates

Some of the literature has indicated a lack of interest as well as academic failure as a reason for not completing health occupation programs (Knopf, 1975; Miller, 1974; Plapp, Prathus, & Caputo, 1965). The question arises: "Could some of the academic failure be due to lack of interest?"

Prior experience working in the health field as a factor for completing programs had not been investigated by the field of research. Yet, many career ladder programs promoting upward mobility, such as the Licensed Vocational Nurse (LVN) to Registered Nurse (RN), and Nurse Assistant to Licensed Vocational Nurse, base their programs on prior experience. Prior exposure to the Mental Health field through volunteer work, family workers in the field, or acquaintance with the patient role, seems to draw some students to the Psychiatric Technician program at MSAC. In addition, Smith's study (Note 2) of attrition in State Hospitals indicated a need for new employees to receive information about the types of clients with whom they would be working. The following questions can be asked: "Does exposure to or experience in the Mental Health field assist the student to complete the program?" "Does the converse hold true?" "Does lack of exposure or experience cause attrition?"

There is no published research in the Mental Health field in relation to attrition of students. The literature on attrition in Nursing and Allied Health areas has been cited on the assumption that this information is transferable to the Psychiatric Technician. Since the Psychiatric Technician's schooling is one third nursing science and two thirds behavioral science, as required by the California Board of Vocational Nurse and Psychiatric Technicians Examiners, and Nursing schooling is all nursing with a minimal amount of behavioral science, more questions arise: "Do the results of this study compare to similar studies using nursing students?", "Are the correlates in attrition the same?", and further, "Are Psychiatric Technician students interested in nursing or in the behavioral sciences?" This research proposed to answer the questions raised in this review of the problem.

Statement of the Problem

MSAC's Mental Health Program has a one third attrition rate despite the screening of students through ability tests such as SCAT, SAT, and ACT. Selection has been on a "first come, first served" basis if the student meets the 30% cut-off score on the ability test. The personal interview was eliminated some years ago as being too time consuming and group orientation was instituted instead. However, attrition has remained about the same, regardless of the method of orientation used.

The purpose of this research was to discern those variables which might differentiate between the students who completed and those who did not complete the first semester of the Mental Health Program at MSAC. Since student attrition is highest in the first semester of the three semester program, two first semester classes, spring 1982 and fall 1982, were chosen for study. The criterion variable was completion or non-completion of the first semester.

Predictive variables of academic ability, interest, and experience/exposure to the Mental Health field were examined. All entering students were required to take a standardized academic and interest test and a supplemental interest and experience/exposure questionnaire designed by the author. At the completion of the first semester, the data were analyzed using Point-Biserial correlation coefficients to determine if the variables were significant in predicting student success of completion. The following research hypotheses were advanced.

Hypothesis 1

For a given group of students in the Mental Health Program at MSAC, there will be a significant positive correlation between the predictive scores of academic ability in Mathematics and in English, measured by a standardized test, and student success in completing the first semester.

Hypothesis 2

For a given group of students in the Mental Health Program at MSAC, there will be a significant positive correlation between the predictive scores of interest in working in the Mental Health field, measured by a standardized interest test and a questionnaire, and student success in completing the first semester.

Hypothesis 3

For a given group of students in the Mental Health Program at MSAC, there will be a significant positive correlation between the scores of those students with work experience in and/or exposure to the Mental Health field, measured by a questionnaire, and student success in completing the first semester.

METHOD

Subjects

Sixty seven entering Mental Health students, comprising two classes, spring 1982 (32 students) and fall 1982 (35 students) made up the sample. Characteristics of both classes were represented somewhat equally. Students were of both sexes, 20 males and 47 females. Twenty five percent of the spring class (8) were male whereas 34% of the fall class (12) were male. Varied ethnic groups were represented: Black, 15 students; Hispanic, 13 students; Asian, 1 student; Indian, 1 student; Caucasian, 37 students. Fifty percent of the spring class were minority students (Black, 9; Hispanic, 5; Asian, 1; Indian, 1) and 40% of the fall class was composed of minority students (Black, 6; Hispanic, 8). Age ranged from 18 to 60 years with the overall mean 27.5 and the mode 19. Both groups represented the three age groups devised by the author, i.e., young, 18-25 years, middle, 26-38 years, older, 40-60 years. The mean age of the spring class was 28.125 and the fall class age mean was 26.97. The mode for both groups was 19, with 5 in the spring class and 6 in the fall class.

Testing Materials

1. American College Testing (ACT) Career Planning Program (CPP). The CPP is a 2 1/2 hour paper and pencil inventory which provides a comprehensive summary of a person's abilities, interests, work-related experiences and goals as they relate to eight career clusters: Business Sales and Management, Business Operations, Trades - Crafts and Industries, Technologies, Natural and Social Sciences, Health Services/Sciences, Creative and Applied Arts, and Social and Personal Services. A person's abilities, interests, and work-related experiences are summarized in a framework of occupations and educational programs which are related to each career cluster (see Appendix B). The purpose of this design is to enable the person to evaluate their strengths and weaknesses in relation to a total of 25 job families and 108 typical educational programs (ACT Counselor's Manual, 1976).

There are six ability measures covering Reading Skills, Numerical Skills, Language Usage, Mechanical Reasoning, Clerical Skills, and Space Relations. There is a vocational interest inventory section and work-related experience scales. All results are organized into an individual Student Profile Report with instructions on how to relate the information to the world of work. An accompanying World of Work map shows how the 25 job families involve working with data, ideas, people or things. In addition,

English and mathematics placement information is included as well as an estimated ACT composite score range (see Appendix B).

Psychometric Properties
of CPP Test Instrument

Measurement. The CPP uses the "wide bandwidth" approach to measurement while retaining scales for educational placement. "Bandwidth," first introduced into the testing literature by Cronbach and Gleser (1957), has been the basis of measurement in career guidance. "Narrow bandwidth" measurement is useful for specific placement, such as in a mathematics program; whereas "wide bandwidth" measurement relates a broad range of concerns and is not as precise. The CPP concerns include abilities, interests, and experience.

Scores on the CPP are stated in terms of high, medium, and low for abilities; none, few, some, and many for interest and experiences. These are then equated to a stanine scale: 1-9, with one representing the low range and nine representing the high range with five being the average score for a norm group (ACT Handbook, 1977).

Psychological Framework. The ACT CPP Handbook (1977, p. 9) notes that the organization of vocational interests and the relationships among interests characterizing occupational groups influenced the development of the ACT CPP. They compared similar occupational categories

of Holland (1973), Roe (1956), and Super (1957) with related occupational interest scales from the Strong Vocational Interest Blank Basic Scales (SVIB-Basic), the Kuder Occupational Interest Survey (Kuder OIS), and the Ohio Vocational Interest Survey (OVIS). Holland's six categories of occupations and corresponding interest areas seemed to represent the common aspects of all the scales.

ACT also noted that Roe (1956) and Roe and Klos (1969) suggest that vocational categories have a circular relationship with each other, with those adjacent being the most similar and those opposite having the least characteristics in common. As a result, the underlying framework for the ACT CPP is the circular organization of career-related characteristics and occupations first suggested by Roe (1956) and later by Holland (1973). Names of some of the categories have been changed and two areas, Health and Technologies, have been added. The circular configuration of the basic categories of career-related characteristics and occupations ("career clusters") were used in developing the Vocational Interest Profile, in organizing abilities and work-related experiences, and in presentation of career-related information on the student report (see Appendix B).

Occupational Classification System. The ACT Occupational Classification System was developed from the 13,800 occupations in the Dictionary of Occupational Titles (DOT).

Information on the worker traits and functions associated with each of these occupations was obtained from the Department of Labor.

Data/Ideas and People/Things Work Task Dimensions.

Research supports the contention that there are two basic dimensions of work tasks on which occupations differ, a data/ideas dimension and a people/things dimension (Roe, 1956; Holland, 1973). Occupations having high involvement with data, i.e., accounting, tend to have low involvement with ideas. In contrast, occupations involved with ideas, i.e., creative writing, tend to have little involvement with data. Similar differences exist with people/things occupations. These dimensions are used to summarize worker trait and function information for occupations on the CPP Student Profile Report.

Job Families and World-of-Work Map. The occupations listed in the DOT were arranged into 25 job families based on similarity of work tasks. The data/ideas and people/things concept relate appropriately to each job family although there is considerable variability of occupations in the family. The World of Work map summarizes information on the 13,800 occupations listed in the DOT.

Norms. National norms are based on 17,137 students enrolled in 100 postsecondary institutions, 70 community colleges and 30 vocational/technical institutions. Ability measure norms are based on combined sex groups, but the

interest and experience norms are based on same-sex groups because of culturally related differences. "Separate sex norms take into account the influence of sex role stereotypes on interests and experiences. As a result, a full range of career options is suggested to both men and women" (ACT Handbook, p. 75).

Reliability. Reliability estimates are based primarily on the performance of a sample of 1,603 high school juniors and seniors (829 female, 774 male) in ten high schools selected to represent a broad range of abilities and geographical regions (ACT Handbook, 1977).

Reliability estimates for the ability measures were based on the Kuder-Richardson Formula 20 and test-retest correlations over a two week interval. Reliability estimates range from .77 to .91 with a median of .83. This suggests moderate reliability (Healy, 1973). Since wide band assessment involves many different kinds of measures, tests are short so that the total testing time is reasonable. Some accuracy is lost as a result, and modest reliability is predicted.

ACT reports that Vocational Interest reliability data are considered sufficiently reliable and stable for use in career guidance, .72 median for men and .80 for women. Alpha coefficients indicate that the scales are internally consistent, but test-retest correlations based on 119 men and 195 women indicate only moderate reliability

(Healy, 1973). The Technical and Science scales are highly correlated, especially when their correlations are compared with their retest reliabilities (Healy, 1973).

Experience scales reliability for seven experience scales (health is not included) are reported separately by sex, .74 to .88 for men and .65 to .86 for women, with a median alpha coefficient of .79 for both. This suggests that the experience scales have sufficient reliability for use in career guidance when the wide band width is used.

Validity. Healy (1973) in Buros' Eighth Mental Measurements Yearbook (1978) states that correlations between corresponding General Aptitude Test Battery (GATB) and CPP scores support the validity of the CPP scales. Two types of criterion-related validity evidence are presented in the Handbook for ACT CPP (1977), p. 43):

1. The effectiveness of the ACT CPP ability measures in predicting the performance of students enrolled in various vocational, technical, and transfer programs.
2. The ability of ACT CPP measures to produce expected differences among "successful and satisfied" students enrolled in different programs.

MSAC Use of CPP. The CPP is a relatively new test, introduced in 1971, substantially revised in 1976, and undergoing further revision at the present time. MSAC is considered one of the oldest users of the CPP and with adjacent Rio Hondo College in Whittier account for the largest concentration of CPP use in the state (Career

Planning Partners Newsletter, 1982). This is a very recent development because MSAC first used the test in 1980 in a study on retention involving 450 students who had participated in the CPP services, and 457 non-CPP students. Results were positive for the CPP groups, although not conclusive. As a result of the survey, the Board of Trustees agreed to the use of the CPP for the spring and fall semesters of 1981. This use has continued at no cost to the student. Counselors at MSAC are preferring the CPP over the SCAT, particularly for Mathematics and English placement (Dwyer, Note 9). Paulson, Dean of Admissions and Counseling at MSAC, stated that the reason he liked the CPP and urged its use for the campus was because: 1) it is a comprehensive test for community colleges, 2) it is a tool for helping select a major, and 3) it is useful for guidance and placement (Note 10).

2. Mental Health Program Applicant Questionnaire. The questionnaire is an instrument developed by the present author (see Appendix C) in order to measure those areas not covered or only covered in a limited fashion by the CPP. It asks 50 questions in the areas of experience, exposure, personality characteristics, and preference for skills to be performed.

The CPP does not test for experience in the Health field on the assumption that recent high school graduates

will not have that experience. The average age of the college student at MSAC is 27; many students entering the Mental Health program to become Psychiatric Technicians are older and do have hospital experience. In the CPP's "field of work," the Psychiatric Technician is not listed (this is a unique classification in only a few states); the mental health assistant is listed but is a lesser level position than the Psychiatric Technician. Such positions as teacher's aide, areas of nursing and psychology also apply to the Psychiatric Technician. The first seven questions of Part I apply to this type of experience. The student responds on a Likert-type scale: Never, At least once, and Several times.

There are nine questions in Part I dealing with exposure to the Mental Health field. Previous exposure is presumed to assist the student in staying in the program. Responses to this section of Part I are on the same Likert-type scale: Never, At least once, and Several times. Answers are weighted for scoring purposes.

Part II asks 24 questions which are indicative of personality characteristics related to the job functioning of the Psychiatric Technician. Actual job situations are presented for individual responses. The Likert-type scale used is: Not true, Seldom true, Sometimes true, Often true, and Almost always true. Answers to certain questions are reversed and correct answers may be either

positive or negative.

Ten questions related to preference of skills to be performed in the work setting are presented in Part III. These are general and straightforward in nature. Likert-type responses are: Would like very much, Would like somewhat, Neutral, Dislike somewhat, and Dislike very much. All questions are weighted toward the positive answer.

Validity and Reliability. This instrument was prepared specifically for this investigation and has not been tested for validity and reliability.

Procedure

All students were required to take the CPP before acceptance into the Mental Health Program. The 2 1/2 hour test was administered by the MSAC Counseling Department and the present author to the spring 1982 class, and the new MSAC Assessment Center carried out the testing for the fall 1982 class. Stanines of 4 on ability in Mathematics and in English were required for acceptance into the program. Stanine 4 has a "wideband" range of 28 to 40 percent which equated the closest to the 30 percent cut-off of the SCAT, the test formerly used. The CPP test was sent to ACT in Iowa for tabulation; they sent back the Student Profile Report. Both Counseling and the Mental Health Department received copies.

It takes a month to six weeks to receive the Student Profile Report from ACT. Therefore, in order to have enough students to start a class, the shorter test on ability alone was given to some students. This ability test is graded by the Counselors at the college and is available in a day or two. According to ACT representative John Roth (Note 8), the long and short versions of the ability tests are comparable. Those students who took only the ability portion were then given the interest and experience part of the CPP by the present author. In addition, if students were accepted into the program quite late on the basis of high SCAT, SAT, or ACT scores or with a Bachelor's degree, they, too, were given the interest and experience portion of the CPP. These were graded by the author after consultation with Roth (Note 8). Despite the administration of different tests by different people, they were administered in a standard format.

Students were given the Questionnaire at the orientation for new students prior to entering the program, or during the first week of school before exposure to the clinical area. Students were assured that there were no "right" or "wrong" answers, and that they should answer the questions quickly as their first inclination was likely to be the most accurate perception of themselves.

RESULTS

Forty five of the 67 subjects completed the first semester of the Mental Health Program whereas 22 did not, thus maintaining the 31% range of attrition the program has experienced over the past several years. Eight students in the spring class (25%) and 14 in the fall class (40%) did not complete, providing an overall 32.5% attrition rate for 1982. The present study examined the relationship between both academic and non-academic variables and student completion. This relationship was assessed using the point-biserial r since the predictor variables were quantitative and the criterion variable was dichotomous (Hardyck & Petrinovich, 1975). The criterion variable of completion was assigned the value of one if the student completed the program and the value of zero if the student dropped out.

Hypothesis 1 was partially supported. Academic ability in English correlated significantly with Student Completion of the first semester of the training program, $r_{pb} (65) = .265$, $p < .05$. The variance shared by English and Completion was $r^2 .07$. However, the correlation between Math Ability and Completion did not prove to be significant. The group means in English Ability for those who completed

was 5.869, whereas the means for those who did not complete was 4.809.

Hypothesis 2 was rejected. Interest, examined in the four areas of Health, Social Services, Personality, and Work Skills, was not significantly correlated with student completion of the first semester of the program.

Hypothesis 3 was partially supported. Prior exposure to the Mental Health Field was significantly correlated with student completion of the first semester, $r_{pb}(65) = .302$, $p < .01$. Measuring for shared variance yielded an $r^2 .091$. However, Experience working in related areas did not prove to be significantly correlated with student completion. The group means in the variable, prior Exposure to the Mental Health Field, for those who completed was 21.173 and 18.667 for those who did not complete the semester.

Table 1 shows the correlations between the selected predictor variables and the criterion variable of student completion.

Intercorrelations of Predictor Variables

The Pearson product moment r was used to analyze the intercorrelations of the predictor variables. Table 2 presents the variable matrix of this analysis and includes the previously presented point-biserial r 's. Results indicate that Exposure had the strongest relationship

Table 1
Point-Biserial Correlations Between Selected
Variables and Student Completion of MSAC's
Mental Health Program's First Semester

Predictor Variables	r_{pb} Coefficients with Criterion Variable of Completion
English Ability	.265*
Mathematics Ability	.125
Social Services Interest	.096
Health Interest	.111
Personality Interest	.065
Work Skills Interest	.076
Experience	.066
Exposure	.302**

* $p < .05$, 1 tailed, 65 df

** $p < .01$

Table 2
Pearson Product Moment Correlation Variable Matrix
of Mental Health Student's Scores

	Engl	Math	Health	SocSv	Person	Work	Expr	Expo	Compl
English	1.000								
Math	0.441***	1.000							
Health	-0.043	-0.009	1.000						
Social Service	-0.020	-0.047	0.359****	1.000					
Personality	-0.041	-0.103	0.094	0.163	1.000				
Work Skills	0.096	0.019	0.049	0.193	0.155	1.000			
Experience	0.166	0.044	0.131	0.243*	0.287*	0.187	1.000		
Exposure	0.303**	0.217	0.167	0.339****	0.357****	0.121	0.579***	1.000	
Completion ⁺	0.265*	0.125	0.111	0.096	0.065	0.076	0.066	0.302**	1.000

*p < .05, 1 tailed, 65 df

**p < .01

***p < .001

****p < .005

⁺point-biserial r_{pb}

with a number of predictors. Exposure and English scores not only related to each other, $r(65) = .303$, $p < .01$, but both also predict completion. Items from subtests measuring these two variables make common reference to an educational level of abstract quality, denoting acceptance of the Mental Health Field through exposure. As one would expect, Exposure and Experience are related, $r(65) = .579$, $p < .001$, yet Experience is not significantly related to completion of the training program.

English Ability, in addition to its correlation with Exposure, also correlated with Math Ability, $r(65) = .441$, $p < .001$. Reading ability is needed in order to follow directions in Math, but again, only English predicts completion. As one would expect from students entering the Mental Health Field, the interest variables of Health and Social Services correlated with each other, $r(65) = .359$, $p < .005$. Personality Interest is related to both Experience and Exposure data; however, Work Skills Interest is not significantly related to any of the predictive variables. The finding that Work Skills Interest and Experience are not significantly correlated is notable since the Work Skills test items describe the job functioning of some of the Experience test items.

Descriptive Analysis

Table 3 shows the results from a descriptive analysis of the selected predictor variables.

Table 3
Mt. San Antonio College Mental Health
Student's Descriptive Analysis of
Selected Predictor Variables

Variable	Mean	SD	Median	Mode
English	5.537	1.910	5.594	6.0
Math	5.164	1.442	7.156	4.0 & 6.0
Health	7.119	1.533	7.154	6.0
Social Service	7.119	1.533	7.154	6.0
Personality	90.940	10.138	91.083	91.0
Work Skills	43.776	5.104	44.714	45.0
Experience	13.448	3.345	13.000	9.0 & 17
Exposure	20.388	3.766	21.000	24.0

The English variable from the CPP test had a range of 8 out of a possible score of 9 (1-9 stanines). The mode was 6.0 with 16 of the 67 students achieving that score. More students scored in the 4, 5, and 6 stanines with 10, 13, and 16 students respectively, than in the higher and lower stanines. MSAC Mental Health students' mean score of 5.537 is higher than the national norm of 5.03 (American College Testing Program, 1977).

The CPP Math variable had a range of 7, from stanine scores 1-9. The stanine scores of 4, 5, and 6 represented the achievement of 17, 16, and 17 students respectively, presenting a strong middle range mode. The mean of 5.164 is only slightly higher than the national norm mean of 5.02 (American College Testing Program, 1977).

Student scores on the Social Services Interest CPP test, represented by stanine scores from 1-9, had a range of 5, from 4 to 9 stanines. Twenty four of the 67 students scored at the 9 stanine, the mode. National norm means for Interest in Social Services was 5.1 for males and 5.14 for females with an overall mean of 5.12 which is considerably lower than the overall group mean of 7.119 for MSAC Mental Health students (American College Testing Program, 1977).

CPP Health Interest scores had a range of 6, 3-9 stanines out of the possible stanine range of 1-9. Students tended to choose test items that placed them in the higher range of 6, 7, 8, 9 stanines with 17, 13, 12, and 17 students in each category. Overall group mean scores of Interest in Health Occupations for MSAC Mental Health students was 7.119 which is higher than the national norm of 5.06 for males and 5.12 for females with an overall mean of 5.09 (American College Testing Program, 1977).

Personality Interest, tested on the Questionnaire,

with a possible range of 96, had a range of 62. The mode of 91 had only six students achieving that score.

Work Skills Interest, determined by the questionnaire, with a possible range of 40 (10-50), had an actual range of 29. Student scores varied from 21 to 50. The mode of 45 had seven of the 67 students in that category.

Experience working in the Mental Health Field or related fields, tested by seven questions on the questionnaire with a possible score range of 14 (7-21), had an actual range of 13. The mode was bimodal; scores 9 and 17 each had nine students.

Exposure to the Mental Health Field, tested by nine questions on the questionnaire with possible scores ranging from 10-27, had an actual range of 14 (13-27). Ten students achieved the score of 24, the mode.

Demographic Variables

Several demographic variables were analyzed to determine if they were related to completion or non-completion of the training program. Chi-square analysis was done.

Sex of subject was found to be independent of the likelihood of completion, $\chi^2(1) = .201$, $p > .05$. Ethnicity of the student (White, Black, and Hispanic) was found to have no relationship to completion of the program, $\chi^2(2) = 1.102$, $p > .05$. Student Age, divided into three groups of young (18-25 years), middle (26-38 years), and older

(40-60 years), did not prove to be significantly related to completion of the program, $\chi^2(2) = .205$, $p > .05$.

DISCUSSION

The problem addressed in this study was the high attrition rate of the first semester of the Mental Health Program at Mt. San Antonio College, and the variables related to such completion. Results did not support the hypothesized relationships between academic ability in Math, interest, experience, on the one hand, and completion of the training program, on the other. However, Exposure to the field of Mental Health was found to be a significant predictor, followed by English ability which carried considerable predictive weight.

Implications of Results

It was expected that academic ability in Math and English would correlate with completion, since the research cited in the literature review of this study indicated that such was usually the case (Astin, 1976; Knopf, 1975; Miller, 1974). The CPP test, recently adopted at MSAC, was used on faith. The evidence reported in the previous chapter suggests that the CPP English test is predictive of completion of the training program, but that the CPP Math test is not. This finding does not support Wittmeyer's 1971 study which found the ACT Math test to be a good predictor.

Stanines of 4 on both CPP tests in Math and English were the necessary level for acceptance into the program, except when remediation testing had been done following the CPP exam. In that case, the score could be lower than 4. Five of the 22 non-completing students failed academically; four of the five students achieved CPP scores of stanine 4 or above. Three other students who were doing poorly academically, and subsequently dropped out, also had scores of stanine 4 or above. The effectiveness of the instrument in predicting academic success, at least at the level of stanine 4, seems to be in question.

The mean English scores of the entire sample were higher than the acceptable stanine of 4 (5.5), and since these scores were significantly correlated with completion, perhaps the stanine level should be increased to 5 for purposes of student selection. It appears that the use of semantic symbols, verbal and reading fluency, comprehension, and abstract conceptualization are necessary skills for the Psychiatric Technician. Textbooks in the program are technical in nature and range in grade level from 12 to 14. In addition, psychiatric concepts are abstract and students find them more difficult to grasp than more concrete subject matter. Students deficient in the basic use of semantic skills will have difficulty in doing the work and are candidates for non-completion.

The CPP Math scores for the sample also had a higher mean than the cut-off stanine 4, that of 5.164. However, the middle range mode supported stanines 4, 5, and 6. While problem solving is necessary for the job functioning of the Psychiatric Technician, and a basic knowledge of arithmetic is necessary for computing dosage of medications, it does not seem necessary to increase the stanine level at this time, since the variable Math did not correlate with completion.

Non-academic predictors were not reliably predictive of program completion except for the variable previous Exposure to the Mental Health Field. It has been the present author's experience that lack of exposure will cause a student to drop, even with counseling. In fact, one of the students in the sample dropped after seeing a hydrocephalic patient. It can be concluded from the evidence that lack of exposure to the field is a factor in non-completion.

The fact that experience did not predict completion is puzzling. The questionnaire asked only seven questions in this area, a small number for correlation. Some of the questioned experiences may prepare the student for the program better than others. The questions were given equal weight. Weighting them differently could be effective, i.e., number seven, "Am now working in the Mental Health Field" should weigh more than number three,

"Have assisted others with their personal problems."

Notwithstanding statistics, the present author suggests that experience in the field is still important in relation to completion. Students with experience relate more easily to patients and know much of what can be expected. It can be speculated that something more must be included with experience, i.e., persistence and discipline. It cannot be emphasized enough how time consuming the Mental Health Program is and that dedication and commitment on the part of the student are needed in order to complete.

Interest in four areas, Social Services and Health on the standardized CPP test and Personality Characteristics and Work Skills on the author's questionnaire, did not prove significantly correlated with completion. Both instruments used personal inventory items and students probably tried to determine the desired answer. While they were told that they were already accepted into the program, it is not unlikely that they answered the questions the way they thought they should be answered, whether true for them or not. This possible response bias could skew the results.

The Pearson r intercorrelation matrix showed the variables Health and Social Services to be highly correlated with each other, and of similar non-significance in predicting completion of the training program. However, there were more variable intercorrelations with Social

Services than there were with Health, particularly in the areas of Experience and Exposure. Such data seem to indicate greater interest in the behavioral sciences over nursing, answering one of the questions raised in the introduction. Students do not enter the Mental Health Program to become nurses, although nursing knowledge and skills are part of the curriculum. Their interest lies in the psychological aspects, characterized by Social Services interest. MSAC student mean scores for both Social Services interest and Health interest were higher than the National norms for the CPP test, indicating high interest in the type of work done by the Psychiatric Technician.

Interest, as depicted by personality characteristics useful in function on the job as a Psychiatric Technician, did not yield any insights. According to Mischel (1968), the value of trait ratings are easily contaminated by measurement techniques, and as a result may not give an accurate, reliable picture of behavior. They provide evidence of the personality constructs and subjectivity of the person making the statements. On the other hand, Goleman (1981) states that in looking for competencies in jobs, certain attitudinal states make a more successful worker than do actual job skills. The present author wrote the statements based on personal knowledge of the actual work arena and the type of individual characteristics

needed to succeed in the job. It would seem that these personality characteristics indicating interest in the job of the Psychiatric Technician should be predictive of completion of the program. The fact that they do not could be the fault of the instrument. It can be concluded that the questionnaire, which had not been validated through previous use, can be improved by doing an item analysis, thus creating a more sensitive instrument.

On the other hand, aptitude testing often yields a "false positive," i.e., the student looks like a good candidate to succeed and does not. Extraneous variables, not measured and difficult to ascertain, play a role in attrition. Such items as financial problems, where there is a need to work more hours, or the inability to obtain loans and grants, are factors in non-completion. Personal problems, such as illness, marital difficulties, family problems or simply moving away are also involved. Then there is the student who just drops out of sight, giving no indication as to the reason why.

This study did not address the situation of the student who may return and complete at a later date, or the one who transfers to another school. These data are difficult to obtain. It is apparent that some who drop out now may complete at another time.

The demographic variables of age, sex, and ethnicity

were examined in relation to completion, and no significance was found. This information is not consistent with the demographic findings by Knopf (1965) that the older students complete more successfully than the younger students, that black students have higher attrition than white students, and that males leave nursing school at a slightly higher rate than females. While beyond the scope of this study, it is recognized that analysis of the relationship between the demographic variables and the predictor variables may provide additional information of value.

While the sample size of 67 is small, it reflects one year's accumulation of data. The sample had an attrition rate of 32.5%, slightly higher than the 31% which has been the average over the past ten years. Therefore, it can be concluded that the sample size was sufficient for the study.

Recommendations

With 7% in English Ability and 9% in Exposure to the Mental Health Field accounted for in this study, it is recommended that a future study re-examine the variables of academic ability, interest, and experience/exposure. However, it is suggested that the study include an added dimension of personality traits of perseverance and discipline. Patterns of stability, of completing

what one has attempted, should be examined. Standardized instruments defining the specific personality characteristics may be compared to a revised questionnaire.

A questionnaire will be necessary for prior experience and exposure to the Mental Health Field, as there are no standardized tests available. The experience questions for the Health Field on the questionnaire were similar to other experience questions on the CPP and were general. More specific questions in the area of experience, plus weighting the questions, may be helpful in a repeat performance.

Implications for future study indicate assessment tests of ability need to be examined. It is suggested that the CPP and other assessment instruments be compared for ability and interest in relation to completion of the program. With proper assessment, the student showing likelihood of completion can be encouraged to enter the program, while those who do not can be re-directed to a more appropriate career. In the immediate future, a cross validation study should be done. If results are similar, a change of the CPP stanine from 4 to 5 in English should be made for acceptance into the program. Counseling of students for academic remediation and resolution of personal problems that may contribute to attrition should be intensified.

In conclusion, the results of this study indicate the need for more research into the factors of attrition. Attrition of Mental Health students is high and adds to the problem of meeting Mental Health worker needs. Costs of the program are high and attrition makes them more costly, a concern in this time of financial constriction in Community Colleges. Mental Health remains the number one health problem in the nation; the health of a nation reflects the quality of life. Trained personnel of the highest caliber are needed. Individuals suited to the field should be sought and further study of attrition be conducted.

APPENDIX A

Mt. San Antonio College

Mental Health Program

Course Description

MT. SAN ANTONIO COLLEGE
HEALTH SCIENCE DIVISION
MENTAL HEALTH PROGRAM
COURSE DESCRIPTION

FIRST SEMESTER

ANATOMY AND PHYSIOLOGY 50

Taught by the Biology Department. This is a 3 unit, 54 hour, overview of the structure and function of the human body. No lab.

MEDICAL-SURGICAL NURSING FOR PSYCHIATRIC TECHNICIANS 56

Taught by the Mental Health Department. This is a 4 unit, 72 hour, course that introduces the student to the theory of basic nursing care of the patient; the hospital environment and safety, and special diagnostic and therapeutic procedures related to medical and surgical disorders of the various body systems.

CLINICAL EXPERIENCE 56L

A 5 unit course, 15 hours per week (a total of 270 hours). Development of skill and practical application of theoretical concepts in the hospital setting.

Current hospitals in use are Lanterman State Hospital, Casa Colina, Hillhaven Convalescent, Intercommunity Hospital of Covina, Doctors' Hospital of Montclair.

MENTAL HEALTH 70

A 2 unit, 36 hour, course that develops knowledge necessary to assess a client's self-concept, function, and interdependence, and an appropriate intervention plan. Introduces roles and functions of a psychiatric technician, examining attitudes and objectives.

CLINICAL EXPERIENCE 70L

A 2 unit course of 144 hours, 8 hours per week. Introduces the student to agencies within the community which serve the mental health field including both the developmentally disabled and the mentally disabled. Interaction with the client and theoretical concepts of Mental Health 70 are applied. Current facilities used are Horizon Hospital, Pomona, Landmark Hospital, Pomona, Lincoln Developmental Center, Ontario, Primrose School and Developmental Center, Fontana. In addition, field trips are made to Metropolitan State Hospital, court hearings, Norco, etc.

SECOND SEMESTER

Drug Therapy for Mental Health Technology 71

A 2 unit course, 36 hours. Includes the study of drugs in current use; their physical properties, absorption, actions, both therapeutic and toxic, contraindications, standards and legislation, modes of administration, and mathematics for medications.

MENTAL HEALTH TECHNOLOGY 72

A 4 unit, 72 hour course. Provides an understanding of the causes of mental retardation and develops the knowledge, skills, and attitudes necessary to teach and train the developmentally disabled client. Techniques of behavior modification and sensory-motor training are used, as well as the teaching of self-help skills. Tests and measurements, normalization, patient/client rights, special techniques involving orthopedics, reflexes, and feeding are also included.

CLINICAL EXPERIENCE 72L

A 6 unit course of 360 hours, 20 hours per week. Practical application of the skills needed to teach and train the developmentally disabled clients. Includes administration of medications, both oral and parenteral. Facilities used: Lanterman State Hospital and selected units at East San Gabriel School for the Multihandicapped.

CHILD GROWTH AND DEVELOPMENT 10

A 3 unit course taught by the Home Economics Department. The developmental approach to the study of the child, identifying growth process from birth through adolescence. Observations of young children required.

PSYCHOLOGY 1A

A 3 unit course taught by the Psychology Department. An introductory course designed to develop an understanding of the basic principles underlying human behavior. The subject matter, methods, and techniques of scientific psychology are presented. Emphasis is placed on heredity, environment, capacities and abilities, learning and remembering, perception, observation, thinking, motivation, emotions, and the basis of personality formation and development.

THIRD SEMESTER

Psychiatric Pharmacology 76

A one unit, 18 hour, course. Provides an understanding of the most commonly used drugs in the treatment of the mentally disabled and mentally disordered clients; action both therapeutic and toxic, classification, use, dose, contraindications, side effects, and administration; as well as the use of electroconvulsive therapy and effects of alcoholism and drug abuse.

Mental Health Technology 73

A 4 unit course. Provides theoretical instruction in the treatment of the mentally disabled. Examines attitudes and approaches, adaptive systems, etiologies, and classifications, substance abuse, therapy models, and crisis intervention.

Clinical Experience 73L

A 6 unit course, 20 hours per week, 360 hours. Provides clinical instruction in the treatment of the mentally disabled client. Assists the student in giving more effective care to all clients/patients by understanding their emotional needs as well as their physical needs. Develops observation, assessment and intervention skills. Facilities used are chronic long term facilities such as Olive Vista in Pomona, acute care facilities such as Horizon Hospital in Pomona, San Antonio Hospital, Mental Health Unit in Upland, and La Habra Community Hospital, Mental Health Unit; and Penal code units at Patton State Hospital.

Sociology 1

Taught by the Sociology Department. A 3 unit course. An introduction to the systematic study of human relations and social structures which emphasizes the interaction between personality, culture, and society. Special consideration is given to an understanding of group behavior, personality formation, social organization, and social change.

Introduction to Interviewing and Counseling 40

Three units taught by the Psychology Department. Presents the basic principles of interviewing and counseling with an emphasis on the practical application of skills needed in obtaining information, establishing rapport, and in developing a supportive relationship in mental health settings.

Assertive Leadership 77

A one unit course, 18 hours. Development of assertive verbal and non-verbal behavior, adaptive vs non-adaptive behavior recognition, employee counseling, documentation and special emphasis on leadership skills.

FOURTH SEMESTER

Optional, but necessary for the A.S. degree.

Mental Health Seminar 74

Two units. Discussion sessions exploring field experience of each student, exposure of students to community mental health programs, and preparation of students for possible job opportunities.

Work Experience in Mental Health Technology 82

Two units, 10 hours per week. Designed to provide the student with actual job experiences in the mental health field. A variety of agencies are used: probation departments, mental health clinics, hospitals, schools, etc.

APPENDIX B

CPP Student Profile Report

EAGLE-A
AGAWAM BOND
100% COTTON FIBER USA

START HERE: USING YOUR CPP REPORT

FINDING OUT ABOUT JOBS
RELATED TO YOUR INTERESTS,
EXPERIENCES, AND ABILITIES

Check (✓) each step as you finish it.

- ☐ 1. Look over the 8 Career Clusters to your left. They help to classify most of the occupations people enter. This report shows your scores on the interest, experience, and ability measures related to jobs in each cluster.
- ☐ 2. Find the Career Clusters with your highest interest and experience scores. Circle the scores. Interests are reported as LOW, MED, or HIGH, experiences as NONE, FEW, SOME, or MANY.
- ☐ 3. Next find the Career Clusters with your highest ability scores. Circle the scores. Abilities are reported as LOW, MED, or HIGH.
- ☐ 4. Look over the 8 Career Clusters again. Notice where you have made your circles. Circle the 2 or 3 clusters you want to explore further and list them below.

Number	Career Cluster Name

- ☐ 5. Look at box 9 in the middle of the Career Clusters. Find the cluster numbers for your Educational Program Preferences and Long-Term Career Goal. Add the names and numbers of any new clusters to your list above. Now turn to the Job Family Charts in your Planning booklet to find out which jobs are included in the clusters you listed in step 4.

GO TO STEP 6a.

ANOTHER WAY TO EXPLORE CAREERS

LOOKING AT
JOB ACTIVITIES IN
THE WORLD OF WORK

Check (✓) each step as you finish it.

- ☐ 6a. Look over the World-of-Work Map at the right. Groups of jobs have been combined into Job Families and placed on the map to show how much they involve combinations of four basic work activities: working with DATA, IDEAS, PEOPLE, or THINGS. While jobs usually involve some work of each type, most jobs stress only one or two of these work activities.

Working with

DATA (facts/records)
IDEAS (theories/insights)
PEOPLE (care/services)
THINGS (machines/materials)

Examples of workers

Clerks & accountants
Writers & scientists
Salespersons & teachers
Mechanics & technicians

- ☐ 6b. On the edges of the map, circle the one or two work activities you think you most prefer (working with DATA, IDEAS, PEOPLE, or THINGS). Look at the Job Families near those work activities to see if any of them interest you.

- ☐ 7a. Now read over the message in the bottom part of box 9 on the front of your report. From your message, write in the missing words in the statement below. (If your region is 99, go to step 7b.)

YOUR INTERESTS SUGGEST YOU MAY LIKE TO WORK MOSTLY WITH _____ & _____.

JOBS IN REGION _____ ON THE WORLD-OF-WORK MAP OFTEN INVOLVE THESE KINDS OF WORK ACTIVITIES.

- ☐ 7b. Look over the Job Families in your region and the regions nearby. Circle the Job Families you want to explore further and write their names below.

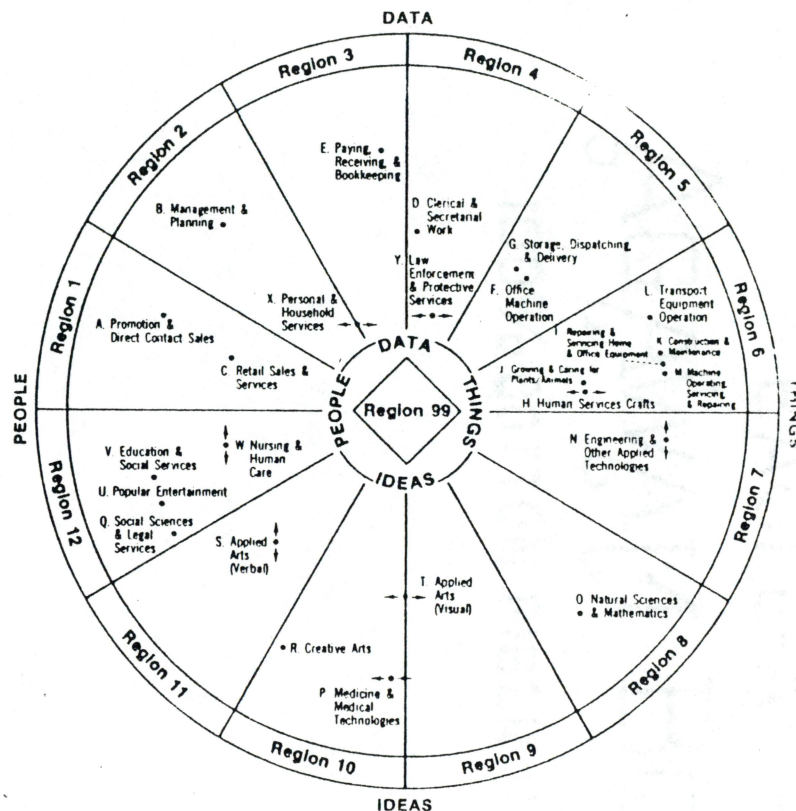
Letter	Job Family Name

- ☐ 8. Now turn to the Job Family Charts in your Planning booklet to find out which jobs are included in the Job Families you listed in step 7b. Use the ideas in Planning to find out more about jobs and careers that interest you.

WORLD-OF-WORK MAP

The World-of-Work Map shows how much each of 25 Job Families involves working with DATA, IDEAS, PEOPLE, THINGS.

You'll find the names of jobs and careers in each of the Job Families in Section 8 of your Planning booklet



Most jobs in a family have similar work activities and fall near the Job Family point. However, jobs in some families are more varied in their work activities. Arrows (↔) by a Job Family show that work activities in so many jobs in that family often involve working with PEOPLE while others involve working more with THINGS. For other Job Families, the arrows (↕) show that some jobs in that family involve working with DATA and others that family involve working more with IDEAS.

APPENDIX C

Questionnaire

MENTAL HEALTH PROGRAM APPLICANTSInstructions

Please answer the following items quickly. Your first inclination is likely to be the most accurate.

Part I

Since experience in, and exposure to, the Health field is not included in the ACT Career Planning Program, the following items will cover this area. Please indicate how frequently you have done each activity listed. Use the following responses:

Never.....A

At least once.....B

Several times.....C

1. Have worked as a nurse's aide.
2. Have worked on the "Hotline" as a volunteer.
3. Have assisted others with their personal problems.
4. Have worked in a psychiatric hospital.
5. Have worked as a teacher's aide.
6. Have worked with the physically handicapped.
7. Am now working in the mental health field.
8. Have had direct contact with someone with a mental disorder.
9. Have personally known a psychiatric technician.
10. Have taken a course in psychology.
11. Have had first hand experience with the mentally retarded.
12. Have participated in a group "growth" experience.
13. Know a friend or relative who has received psychological assistance.
14. Have personally received psychological counseling.
15. Have visited a school for the developmentally disabled (multihandicapped or mentally retarded).
16. Have visited a mental hospital.

Part II

Please indicate to what degree the following statements are true of you. Answer:

Not true.....A

Seldom true.....B

Sometimes true.....C

Often true.....D

Almost always true...E

17. It is easy for me to speak up and express my opinion.
18. I like to be in control of situations.
19. I like to plan my activities early in the day, rather than see what happens.
20. I am observant of detail.
21. Unusual behaviors interest me.
22. Physical closeness bothers me.
23. It is difficult for me to approach people I don't know.
24. I feel challenged to perform when under pressure.
25. If a stranger who appeared mentally retarded approached me on the street in a friendly manner, I would be frightened.
26. I enjoy doing the same things over and over.
27. I have a lot of physical endurance.
28. I tend to be influenced by the emotions of others.
29. On a crowded bus, I would stand rather than sit by someone talking to him/herself.
30. I work just as hard when I am not being supervised as I do when I am being supervised
31. I am understanding when people feel troubled.
32. I function best when there is a lot to do.
33. I become frustrated when people do not do what I expect.
34. I am patient when people do not understand what I am saying.
35. It is difficult for me to get people involved in doing something.
36. I can control my feelings when something unexpected happens.

- 37. I take the side of people I see as weak or powerless.
- 38. Everything needs to be in order before I start a task.
- 39. I say little or nothing when I disagree with the comments of others.
- 40. I enjoy being with people more than being alone.

Part III

Please indicate how much you think you would like to do the following things in a work setting. Answer:

Would like very much.....A

Would like somewhat.....B

Neutral.....C

Dislike somewhat.....D

Dislike very much.....E

- 41. Participate in recreational activities with patients.
- 42. Record and chart progress of patients toward treatment goals.
- 43. Administer medications.
- 44. Teach patients community living skills such as cooking, sewing, and dealing with money.
- 45. Recognize and attempt to control a potentially violent situation before it erupts.
- 46. Be in close physical contact with patients.
- 47. Work in crisis situations.
- 48. Seek out and talk with patients.
- 49. Give first-aid.
- 50. Interview patients to obtain information necessary for treatment planning.

KEY TO SCORING OF QUESTIONNAIRE

Part I

Never.....A = 1 point
 At least once:.....B = 2 points
 Several times.....C = 3 points

Questions 1-7 (Experience) = C is the desired answer.

Questions 8-16 (Exposure)

8 = C
 9 = C
 10 = B
 11 = C
 12 = C
 13 = C
 14 = A (reverse scoring, give 3 points for A)
 15 = C
 16 = C

Part II

Not trueA = 1 point
 Seldom trueB = 2 points
 Sometimes true.....C = 3 points
 Often trueD = 4 points
 Almost always true.....E = 5 points

Questions 17-40 (Personality Characteristics)

17 = E
 18 = E
 19 = E
 20 = E
 21 = E
 22 = A (reverse scoring, A = 5 points)
 23 = A (reverse scoring, A = 5 points)
 24 = E
 25 = A (reverse scoring, A = 5 points)
 26 = E
 27 = E
 28 = A (reverse scoring, A = 5 points)
 29 = A (reverse scoring, A = 5 points)
 30 = E
 31 = E
 32 = E
 33 = A (reverse scoring, A = 5 points)
 34 = E
 35 = A (reverse scoring, A = 5 points)
 36 = E
 37 = E
 38 = A (reverse scoring, A = 5 points)
 39 = A (reverse scoring, A = 5 points)
 40 = E

Part III

Would like very much.....A = 5 points
Would like somewhat.....B = 4 points
Neutral.....C = 3 points
Dislike somewhat.....D = 2 points
Dislike very much.....E = 1 point

Questions 41-50 (Work Skills) = A is the desired answer.

EAGLE-A

AGAWAM BOND

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REFERENCE NOTES

1. Randall, J. President of Mt. San Antonio College, Walnut, California. Personal communication, 20 January 1983.
2. Smith, W. O. State hospital employee turnover study. Department of Developmental Services. State of California, September 1980. Unpublished material.
3. Valenzuela, F. Executive Director of Lanterman State Hospital. Open letter to Bam Franklin, Department of Developmental Disabilities, 1982.
4. Miller, J. L., & Smith, W. C. A survey of Psychiatric Technician training programs affecting the California State hospital system. Department of Industrial Relations and Department of Developmental Services, July 1979. Unpublished material.
5. Board of Vocational Nurse and Psychiatric Technician Examiners. Telephone conversation, 14 June 1982.
6. Mount San Antonio College Health Sciences Division. Annual Reports 1975-1981. Unpublished material.
7. Meyers, K. Dean of Health Sciences Division, Mt. San Antonio College. Interview, 8 November 1981.
8. Dennison, B. P. Personality type and attrition in mental health programs. Senior project. La Verne, California: University of La Verne, 1979. Unpublished material.
9. Roth, J. D. Director ACT Career Planning Services, Iowa City, Iowa. Telephone conversation, 7 December 1981.
10. Dwyer, J. Mt. San Antonio College Counseling Department, Walnut, California. Interview, 28 October 1981.
11. Paulson, B. Dean of Admissions and Counseling, Mt. San Antonio College. Interview, 30 November 1981.

REFERENCES

- Albie, G. The manpower crisis in Mental Health. American Journal of Public Health, 1960, 50(12), 1895-1899.
- American College Testing Program. Career Planning Program Counselor's Manual. Iowa City, Iowa, 1976.
- American College Testing Program. Handbook for the ACT Career Planning Program. Iowa City, Iowa, 1977.
- Astin, A. Preventing students from dropping out. San Francisco: Jossey-Bass Publishers, 1976.
- Atkins, K. B. The effect of an orientation-advising program on attrition rates of the Allied Health Division at Spartanburg Technical College. Research Report. Dissertation, Nova University, 1979. (ERIC No. ED 174272)
- Board of Vocational Nurse and Psychiatric Technician Examiners. Psychiatric Technicians Law. Sacramento: Department of Consumer Affairs, 1980.
- Brazziel, W. Non-intellective predictors of student persistence/attrition and performance: Implications for college and university research and planning. Paper presented at the International Forum of the Association for Institutional Research, Montreal, May 1977. (ERIC Document Reproduction No. ED 139319)
- Brossman, S., & Roberts, M. The California Community Colleges. Palo Alto: Field Educational Publications, Inc., 1973.
- Career Planning Partners. A Newsletter for the ACT Career Planning Program, May 1982, 4.
- Cronbach, L. J., & Gleser, G. C. Psychological tests and personnel decisions. Urbana: University of Illinois Press, 1957.
- Dugger, J. G. The new professional: Introduction for the Human Services/Mental Health Worker. Monterey: Brooks/Cole Publishing Co., 1980.

- Foellinger, J., & Aspinwall-Lamberts, J. Graduate and early leaver follow-up survey results, 1977-1978. Research Report 143. Lane Community College, Eugene, Oregon, 1980. (ERIC No. ED 191541)
- Hardyck, C., & Petrinovich, L. Understanding research in the social sciences. Philadelphia: W. B. Saunders Co., 1975.
- Healy, C. ACT Career Planning Program, January 1973, 5(4), 509-512. In O. K. Buros, Eighth mental measurements yearbook. Highland Park, New Jersey: Gryphon, 1978.
- Holland, J. L. Making vocational choices: A theory of careers. Englewood Cliffs, New Jersey: Prentice Hall, 1973.
- Goleman, D. The new competency tests: Matching the right people to the right jobs. Psychology Today, 1981, 35-46.
- Knopf, L. Graduation and withdrawal from RN programs. A report of the nurse career-pattern study. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., November 1975.
- Miller, M. H. A follow up of first year nursing student drop-outs. Nursing Forum, 1974, 13, 32-47.
- Mischel, W. Personality and Assessment. New York: John Wiley and Sons, Inc., 1968.
- Myers, I. B. The Myers-Briggs Type Indicator. Princeton, New Jersey: Educational Testing Service, 1962 (4th printing, 1973).
- Osborn, G. E. A longitudinal study of relationships between scores achieved on the state board test pool examination and selected variables within a California Community College setting. Doctoral Dissertation, Los Angeles: University of Southern California, 1981.
- Plapp, J. M., Prathus, G., & Caputo, D. V. Intellectual predictors of success in nursing school. Educational and Psychological Measurement, 1965, 25, 565-577.
- Research Medical Center, Kansas City, Mo. School of Nursing. Persisters and withdrawals - An analysis of the differences. Research Report, 1975. (ERIC Document Reproduction No. ED 121217)

Roe, A. The psychology of occupations. New York: Wiley, 1956.

Roe, A., & Klos, D. Occupational classification. The Counseling Psychologist, 1961, 1(3), 84-92.

Super, D. E. The psychology of careers. New York: Harper, 1957.

Wittmeyer, A. L., Camiscioni, J. S., & Purdy, P. A. A longitudinal study of attrition and academic performance in a collegiate nursing program. Nursing Research, 1971, 20(4), 339-347.